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New study shows chicory root fibres selectively increase Bifidobacteria independent of food application

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A recently published studyÂ conducted by researchers from The Department of Food and Nutritional Sciences University of Reading (UK), in collaboration with the BENEO-Institute, demonstratesÂ thatÂ prebiotic chicory root fibres support the selective growth of Bifidobacteria in the human gut, no matter which food application and food matrix they are used in. This is good news for producers wanting to bring the bifidogenic effect and gut health benefits of prebiotic chicory root fibre to a wide

variety of consumer mealsproducts.

Encouraging the growth of beneficial bacteria such as Bifidobacteria is important as it supports human health via positive effects on the gut environment. It also creates less favourable living conditions for potential pathogen bacteria and has benefits beyond digestive health for overall well-being. The bioavailability and therefore, efficacy, of some ingredients and nutrients have been found to be impacted by the food matrix they are in. As a result, certain benefits cannot be credibly claimed by producers, as the ingredientâ??s function may differ depending on the application or matrix it is used. However, the study shows that when incorporating prebiotic chicory root fibre into food applications, this is not the case. This is a key factor for producers to consider given that three in four consumers who buy prebiotics state product efficacy as a key purchasing factor (76 per cent).

Though several studies of inulin-type fructans in various food applications and matrices already exist, this is the first time that the effects of chicory root fibre in different food applications have been included within one study design, enabling their direct comparison. This study was designed as a prospective, parallel-group, randomised trial. The participants were split into four groups - with 24 participants in each. The foods reflected a wide range of matrices, such as baked, semi-solid and liquid, and were consumed as part of the populationsâ?? habitual diet. While the first group received pure inulin (for comparison purposes), the other participants were given inulin-enriched foods in the format of shortbread, milk chocolate, or a rice drink, depending on which group they belonged to. All groups consumed a total of 10g of chicory root fibre (BENEOâ??s OraftiÂ® Inulin) per day (5g in the morning and 5g in the evening), and stool samples were taken at the beginning and at the end of the ten-day intervention.

At the end of the intervention period, the four groupsâ?? results were analysed and in all cases, the bacterial enumeration demonstrated a significant increase in Bifidobacteria on day ten. In fact, an average 92 per cent increase of Bifidobacteria was seen across all four groups compared to the baseline, and no significant differences were detected between any of the intervention groups on day ten. Irrespective of the food application and matrix, the prebiotic chicory root fibres were shown to support the selective growth of Bifidobacteria and the results were consistent across two different study methods used within the research. Thanks to these findings, product developers can have even more science-based trust in the functional benefits of BENEOâ??s chicory root fibres.

Anke Sentko, Vice President of Regulatory Affairs & Nutrition Communication at BENEO comments: â??Thanks to this study, product developers can â??tick offâ?? one key question from their checklist: does the functional ingredient deliver the desired benefit when used in the final application? And the answer for chicory root fibre enrichment clearly is â??yesâ??. It has now been scientifically proven that the intended Bifidobacteria growth is independent of the food matrix that is used. These findings add to the large body of studies about the beneficial effects of chicory root fibres that already exist and are based on more than 25 years of scientific research on the proven prebiotics inulin and oligofructose.â?